

Protecting Wildlife

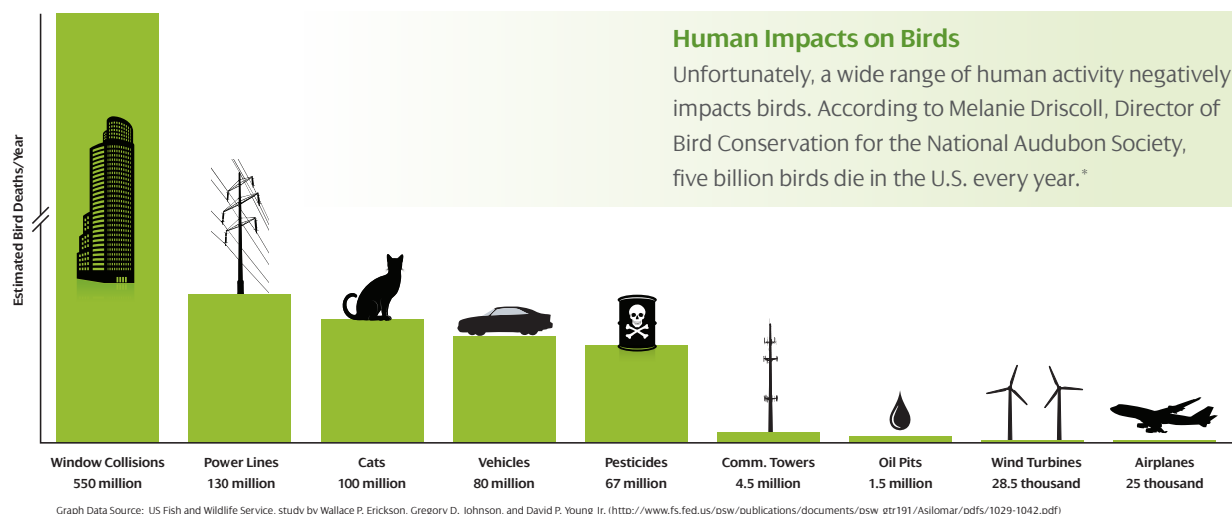
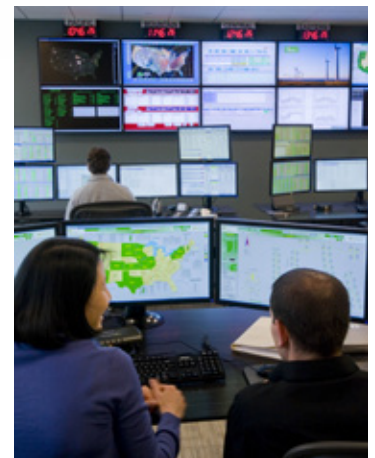
A Priority for Every Community



As a company that is leading America's transition to a renewable energy future, Iberdrola Renewables, Inc. takes environmental protection very seriously. At the top of this list: safeguarding wildlife in the communities where we do business. From the start of project development through construction and operation of our plants, Iberdrola Renewables works hard with state and federal agencies, as well as non-governmental organizations (NGOs) and environmental groups, to site, build and operate wind farms responsibly.

Leading by Example

Iberdrola Renewables led the industry in reducing wind energy's already-small impact on wildlife when in 2008, we became the first U.S. wind power company to voluntarily adopt an Avian and Bat Protection Policy. The policy, drafted in consultation with the U.S. Fish and Wildlife Service, entails pre-and post-construction studies, even if not required. Modeled on plans undertaken by electric utilities to avoid avian collisions, our efforts have become industry best practices for monitoring, site design and mortality reduction. Wind technicians working on site, dispatchers at our state-of-the-art National Control Center and many others throughout the company all have a role in monitoring, recording and mitigating wildlife impact. Also, Iberdrola Renewables is the first company to join the Avian Power Line Interaction Committee (APLIC) as a wind developer. APLIC sets the suggested practices for bird safe power lines.



The Number One Killer? Habitat Loss.

More than any other cause, the over 800 species of migratory birds in the United States are threatened by habitat destruction. Sprawling suburban development, mining and logging, and other forms of habitat degradation such as climate change impacts have been the leading cause of declining bird populations.**

*<http://www.nytimes.com/2011/01/18/science/18birds.html>

**<http://www.fws.gov/birds/mortality-fact-sheet.pdf>

As the first U.S. wind company to enact an Avian and Bat Protection Policy in 2008, the first annual Avian and Bat Protection Policy Report details Iberdrola Renewables' efforts through scientific, legal and operations teams to operate in an environmentally sustainable manner to avoid, minimize or reduce risk to birds, bats, other wildlife and their habitats on a project-specific and national basis.

This major undertaking has led to the development and implementation of the Wildlife Monitoring and Reporting System (WMRS) for both baseline and operational monitoring to report and record bird and bat fatalities or injury (casualties) during project operations. In total, baseline fatality monitoring for birds and bats was conducted at 23 projects.

The objective of the operational monitoring for life of project is to provide data on trends of fatalities over the long-term as well as species composition, which could lead to a better understanding of what species are at risk to collision.



▲ **SPOTLIGHT: Iberdrola Renewables and Bat Conservation International (BCI) study impact at Casselman Wind Power Project, PA**

In 2009, Bat Conservation International scientists conducted a study to determine whether changing the cut-in speed of turbines during low-wind-speed nights in late summer will reduce bat mortality.

BCI's work was done through the groundbreaking Bats and Wind Energy Cooperative (BWEC - www.batsandwind.org), which is a coalition of the American Wind Energy Association (AWEA), the U.S. Fish and Wildlife Service, the National Renewable Energy Laboratory and BCI.

Two years of a ground-breaking effort to study the interaction between bats and wind turbines at Casselman showed that turning off the turbines during low wind periods reduced bat mortality between 50-90 percent. The method has the potential to be a cost-effective way to reduce the impact on bats during their late-summer migration season for sites that have high fatality estimates that warrant mitigation. Iberdrola Renewables continues to work with BCI to find ways to reduce wind's impact on these vital creatures.

SPOTLIGHT: Iberdrola Renewables avian efforts at Peñascal Wind Power Project, TX ▼

Before construction began, Iberdrola Renewables commissioned wildlife biologists to spend three years and more than 4,000 hours in the field, studying the site and avian patterns. Iberdrola Renewables located turbines based on the pre-construction data collected and in conjunction with other constraints such as wetland avoidance.



Peñascal employs a Merlin avian radar unit to monitor avian migration and curtail turbine operation when major bird migration activity occurs during low visibility conditions. The Merlin radar technology was developed for the military to detect birds that might fly into aircraft. Iberdrola Renewables is cooperating with our competitor (Pattern Energy) that operates a wind farm nearby so that all parties will have the best data on bird migrations in the area as well as benefits of redundant systems.